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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,738	07/18/2008	Peter Samuel Atherton	1034413-000015	1661

21839 7590 06/18/2010
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

PHAM, QUANG

ART UNIT	PAPER NUMBER
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2612

NOTIFICATION DATE	DELIVERY MODE
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06/18/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/586,738	Applicant(s) ATHERTON, PETER SAMUEL	
	Examiner QUANG PHAM	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/21/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In this instant application, claims 1-17 have been examined and considered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-2, 7-9, and 12-15 are rejected under 35 USC 102(b) as being anticipated by Eberthard et al. (Eberthard – US 6,107,920).**

(1). As to **claim 1**, **Eberthard** discloses radio frequency identification tag having an article integrated antenna. Further, **Eberthard** discloses *a method, comprising:*

providing an RF antenna (FIG. 1 the antenna 22) on an item (abstract, column 3 lines 47 – column 4 lines 2, column 4 lines 17-23, FIG. 1 the article 10); and

electrically coupling a separate RFID electronics module (FIG. 1 the RFID tag circuit chip 12) to the RF antenna (FIG. 1 the antenna 22) on the item after the RF antenna is provided on the item (abstract, column 4 lines 17-23, column 4 lines 34-44, FIG. 1, and FIG. 2);

thereby providing an RFID capability for the item (column 4 lines 10-15, column 5 lines 33-40, and FIG. 1).

(2). As to **claim 2**, **Eberthard** discloses the limitations of **claim 1**. Further, **Eberthard** discloses *the method wherein electrically coupling comprises attaching the RFID module to the*

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item to provide an RFID function for the item (abstract, column 4 lines 10-15, column 4 lines 17-23, column 4 lines 34-44, column 5 lines 33-40, FIG. 1, and FIG. 2).

(3). As to **claim 7**, **Eberthard** discloses radio frequency identification tag having an article integrated antenna. Further, **Eberthard** discloses *a method comprising:*

applying an RF antenna (FIG. 1 the antenna 22) *directly to an item* (column 4 lines 16-23);

providing an RFID electronics module (FIG. 1 the RFID tag circuit chip 12) *separate from the item* (FIG. 1) *and the RF antenna on the item* (FIG. 1 the first surface 18), *the RFID electronics module including electronics that provide an RFID capability when coupled to the RF antenna* (column 4 lines 10-15, column 5 lines 33-40, and FIG. 1);

applying the RFID electronics module to the item after applying the RF antenna to the item, whereby the RFID electronics module is electrically coupled to the RF antenna (abstract, column 4 lines 17-23, column 4 lines 34-44, FIG. 1, and FIG. 2).

(4). As to **claim 8**, **Eberthard** discloses the limitations of **claim 7**. Further, **Eberthard** discloses *the method further comprising:*

providing alignment features (FIG. 1 the first coupling region 28 and the second coupling region 30) *on the item and positioning the RFID electronics module on the item based on a location of the alignment features* (column 4 lines 29-44).

(5). As to **claim 9**, **Eberthard** discloses the limitations of **claim 7**. Further, **Eberthard** discloses *the method further comprising providing an adhesive on the RFID electronics module; and applying the RFID electronics module to the item by means of the adhesive* (column 4 lines 29-44 and FIG. 2 the anisotropic adhesive 34).

(6). As to **claim 12**, **Eberthard** discloses the limitations of **claim 7**. Further, **Eberthard** discloses *the method wherein applying the RF antenna to the item comprises printing the RF antenna on the item* (column 4 lines 16-23).

(7). As to **claim 13**, **Eberthard** discloses the limitations of **claim 12**. Further, **Eberthard** discloses *the method of wherein the RF antenna is printed on the item using electrically conductive ink* (column 4 lines 16-29).

(8). As to **claim 14**, **Eberthard** discloses radio frequency identification tag having an article integrated antenna. Further, **Eberthard** discloses *in combination, an item* (column 3 lines 56 - column 4 lines 2 and FIG. 1 the article 10) *having at least one surface* (FIG. 1 the first surface of the article 15) *and an RF antenna* (FIG. 1 the antenna 22) *applied to the surface* (FIG. 1); *and an RFID electronics module* (FIG. 1 the RFID tag circuit chip 12) *separate from the item and from the RF antenna on the item* (FIG. 1), *the RFID electronics module including electronics which provide an RFID capability when coupled to the RF antenna* (column 4 lines 10-15, column 5 lines 33-40, and FIG. 1), *the RFID electronics module being applied to the item so as to be electrically coupled to the RF antenna and provide an RFID capability for the item* (abstract, column 4 lines 17-23, column 4 lines 34-44, FIG. 1, and FIG. 2).

(9). As to **claim 15**, **Eberthard** discloses the limitations of **claim 14**. Further, **Eberthard** discloses *the combination further comprising an adhesive attaching the RFID electronics module to the item* (column 4 lines 29-44 and FIG. 2 the anisotropic adhesive 34).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 3, 5, and 10 are rejected under 35 USC 103(a) as being unpatentable over Eberthard in view of Beigel (Beigel – US 6,181,287 B1).**

(1). As to **claim 3**, **Eberthard** discloses the limitations of **claim 1** except for the claimed limitations of *the method wherein the electrical coupling between the RF antenna and the RFID electronic module is a non-contact electrical coupling method*.

In the same art of RFID design, **Beigel** discloses a method wherein the RFID antenna coupled to the RFID chip to reduce the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (abstract, column 2 lines 29 – column 3 lines 2, and FIG. 1).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include *the method wherein the electrical coupling between the RF antenna and the RFID electronic module is a non-contact electrical coupling method*, as taught by **Beigel**, in the method of attaching RFID module to an item of **Eberthard**, for the purpose of reducing the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (**Beigel**: column 2 lines 63 – column 3 lines 2).

(2). As to **claim 5**, **Eberthard** discloses the limitations of **claim 1**. Further, **Eberthard** discloses *the method further comprising:*

providing the RF antenna (FIG. 1 the antenna 22) with a first set of contact pads (column 4 lines 34-37 and FIG. 1 the first coupling region 28);

providing the RFID module (FIG. 1 the antenna 22) with a second set of contact pads (column 4 lines 34-37 and FIG. 1 the second coupling region 30); and

Except for the claimed limitations of the method comprising: aligning the first and second set of contact pads in a predetermined manner relative to each other when attaching the RFID module to the item whereby the RFID module is non-contact electrically coupled to the RF antenna.

In the same art of RFID design, **Beigel** discloses a method wherein the RFID antenna coupled to the RFID chip to reduce the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (abstract, column 2 lines 29 – column 3 lines 2, and FIG. 1).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include *the method comprising: aligning the first and second set of contact pads in a predetermined manner relative to each other when attaching the RFID module to the item whereby the RFID module is non-contact electrically coupled to the RF antenna*, as taught by **Beigel**, in the method of attaching RFID module to an item of **Eberthard**, for the purpose of reducing the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (**Beigel**: column 2 lines 63 – column 3 lines 2).

(3). As to **claim 10**, **Eberthard** discloses the limitations of **claim 7** except for the claimed limitations of *the method further comprising applying the RFID electronics module to the item such that the RFID electronics module is non-contact electrically coupled to the RF antenna*.

In the same art of RFID design, **Beigel** discloses a method wherein the RFID antenna coupled to the RFID chip to reduce the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (abstract, column 2 lines 29 – column 3 lines 2, and FIG. 1).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include *the method further comprising applying the RFID electronics module to the item such that the RFID electronics module is non-contact electrically coupled to the RF antenna*, as taught by **Beigel**, in the method of attaching RFID module to an item of **Eberthard**, for the purpose of reducing the need for the electrical connection between the RFID chip and the RFID antenna through the substrate (**Beigel**: column 2 lines 63 – column 3 lines 2).

5. **Claims 4 and 11 are rejected under 35 USC 103(a) as being unpatentable over Eberthard.**

(1). As to **claim 4**, **Eberthard** discloses the limitations of **claim 1** except for the claimed limitations of *the method wherein the item includes an inside surface and an outside surface and further comprising providing the RF antenna on the inside surface of the item and attaching the RFID electronics module in an adjacent position to the outside surface of the item*.

Eberthard discloses the a method printing antenna inside the surface of the item in order to reduce the orientation sensitivity of the RFID tag, for instance (column 10 lines 3-42 and FIG.

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15 the antenna element 424). **Eberthard** discloses different method of attaching the RFID chip to the RFID antenna (FIG. 1-14). In addition, **Eberthard** discloses RFID chip is in an adjacent position to the outside surface of the item when the antenna is printed on the inside surface of the item (column 8 lines 10-33 and FIG. 11). Therefore, in **Eberthard**'s teaching, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include *the method wherein the item includes an inside surface and an outside surface and further comprising providing the RF antenna on the inside surface of the item and attaching the RFID electronics module in an adjacent position to the outside surface of the item*, as taught by **Eberthard**, in the method of attaching the RFID module to an item of **Eberthard**, for the purpose of reducing the orientation sensitivity of the RFID tag and protecting the RFID tag from damage by placing the RFID chip below the surface of the item and the result would have been predictable.

(2). As to **claim 11**, **Eberthard** discloses the limitations of **claim 7**. Further, **Eberthard** discloses *the method further comprising applying the RFID electronics module to the item such that the RFID electronics module is in electrical contact with the RF antenna* using adhesive (column 4 lines 29-44 and FIG. 2 the anisotropic adhesive 34; the anisotropic adhesive is a type of conducting adhesive) except for the claimed limitations of *the method comprising: RFID electronics module is in direct electrical contact with the RF antenna*.

Eberthard discloses a method wherein the RFID electronics module securely in direct electrical contact with to the antenna (column 8 lines 15-22 and FIG. 11). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include *the method comprising: RFID electronics module is in direct electrical contact with the*

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RF antenna, as taught by **Eberthard**, in the method of attaching RFID module to an item of **Eberthard**, for the purpose of preventing damage of the RFID tag during use of the item (column 8 lines 15-22).

6. **Claims 6 and 16 are rejected under 35 USC 103(a) as being unpatentable over Eberthard in view of Halope et al. (Halope – US 6,770,509 B2).**

(1). As to **claim 6**, **Eberthard** discloses the limitations of **claim 1** except for the claim limitations of *the method further comprising providing a dielectric between the RF antenna and the RFID electronic module*.

In the same art of producing RFID tags, **Halope** discloses a method comprising steps of applying the dielectric material between the RFID chip and the RFID antenna to maintain the position of the RFID chip (abstract, column 2 lines 57-63, column 3 lines 25-35, and FIG. 3 the adhesive dielectric material 20).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include *the method further comprising providing a dielectric between the RF antenna and the RFID electronic module*, as taught by **Halope**, in the method of attaching RFID module to an item of **Eberthard**, for the purpose of maintaining the RFID chip position relative to the contacts by applying the adhesive electric material between the RFID chip and the RFID antenna.

(2). As to **claim 16**, **Eberthard** discloses the limitations of **claim 14** except for the claim limitations of *the combination further comprising a dielectric between the RFID electronics module and the RF antenna*.

In the same art of producing RFID tags, **Halope** discloses a method comprising steps of applying the dielectric material between the RFID chip and the RFID antenna to maintain the position of the RFID chip (abstract, column 2 lines 57-63, column 3 lines 25-35, and FIG. 3 the adhesive dielectric material 20).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include *the combination further comprising a dielectric between the RFID electronics module and the RF antenna*, as taught by **Halope**, in the combination of attaching RFID module to an item of **Eberthard**, for the purpose of maintaining the RFID chip position relative to the contacts by applying the adhesive electric material between the RFID chip and the RFID antenna.

7. **Claim 17 is rejected under 35 USC 103(a) as being unpatentable over Eberthard in view of Gustafson (Gustafson – US 6,050,622).**

As to **claim 17**, **Eberthard** discloses the limitations of **claim 14** except for the claimed limitations of *the combination wherein the RFID module is adapted to have its RFID capability modified if the RFID electronics module is tampered or removed from the item*.

In the same art of designing RFID tag, **Gustafson** discloses a method wherein the function of the RFID tag is modified if the RFID tag is removed from the item (abstract, column 6 lines 35-50, and FIG. 6).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the claimed invention to include *the combination wherein the RFID module is adapted to have its RFID capability modified if the RFID electronics module is tampered or removed from the item*, as taught by **Gustafson**, in the combination of attaching the RFID module to an item of

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Eberthard, for the purpose of disabling the RFID function in order to prevent the re-usage of the RFID tag or to detect the tampering of the RFID tag.

Citation of Pertinent Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a. Tanaka et al., US 7,142,822 B2, discloses package device for accommodating a radio frequency circuit.

b. Takasugi et al., US 6,837,438 B1, discloses non-contact information medium and communication system utilizing the same.

c. Vega et al., US 6,265,977 B1, discloses radio frequency identification tag apparatus and related method.

d. Atherton et al., US 7,049,962 B2, discloses material and construction for a tamper indicating radio frequency identification label.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUANG PHAM whose telephone number is (571)-270-3668. The examiner can normally be reached on Monday - Thursday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BENJAMIN LEE can be reached on (571)-272-2963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/QUANG PHAM/
Examiner, Art Unit 2612

/BENJAMIN C. LEE/
Supervisory Patent Examiner, Art Unit 2612